COMMENTARY

Toward ending hepatitis C virus infection: What are the next steps?

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In 2016, the 194 member states of the World Health Organization (WHO), including Canada, adopted the first global health sector strategy on viral hepatitis. Its goal is to eliminate viral hepatitis as a public health threat by 2030.[1] The vision articulated in the strategy is "a world where viral hepatitis transmission is halted and everyone living with viral hepatitis has access to safe, affordable and effective care and treatment".[1] The strategy identifies underdiagnosis as an important barrier to eliminating viral hepatitis. Globally, most people with chronic viral hepatitis infection are not aware that they are infected.[1] In Canada, 21%–44%[2,3] are unaware of their chronic hepatitis C virus (HCV) infection.

The optimal approach to the problem of underdiagnosis of chronic HCV infection has been the topic of much discussion. Existing joint guidelines from the Public Health Agency of Canada and the College of Family Physicians of Canada (in 2009), as well as the Canadian Collaboration for Immigrant and Refugee Health (in 2010), recommend testing for HCV infection in individuals at increased risk. Perhaps not surprisingly, these recommendations for risk-based testing have not fully addressed the underdiagnosis of chronic HCV infection. With advancements in treatments for HCV infection, a critical look at a population-based screening approach for chronic HCV infection is much needed in Canada.

In their new guideline, the Canadian Task Force on Preventive Health Care puts forth a recommendation against screening for HCV infection in adults who are not at elevated risk, and refers to earlier guidelines advising risk-based testing.[4] This is in keeping with recommendations from several other jurisdictions, as well as the WHO's strategy on viral hepatitis. However, it differs from the 2012 recommendation by the United States Preventive Services Task Force and the US Centers for Disease Control and Prevention for population-based screening of persons born between 1945 and 1965 once in their lifetime.[5,6]

There are both knowledge gaps and system-wide barriers to population-based screening for chronic HCV infection currently in Canada. Chief among these are high cost of treatment, limited access to publicly funded treatment and the health inequity that results. Screening is widely considered to be unethical if treatment is either unavailable or unaffordable. However, the pan-Canadian Pharmaceutical Alliance and pharmaceutical manufacturers recently negotiated a price reduction for direct-acting antivirals (DAAs). Therefore, it would be sensible for provinces to review the eligibility criteria for access to publicly funded treatment for chronic HCV infection. In most provinces, current eligibility criteria for publicly funded treatment (e.g., fibrosis stage F2 or above) favour those patients at higher risk of HCV-related complications. However, some evidence has suggested that patients who are treated and achieve sustained virological response (SVR) before the onset of cirrhosis (i.e., fibrosis stage F0–F3) have fewer long-term HCV-related complications than those who achieve SVR after the onset of cirrhosis (i.e., fibrosis stage F4).[7] From a health equity and ethical perspective, eligibility for publicly funded treatment should be expanded to all patients with a diagnosis of chronic HCV infection — those at higher risk of complications and those with the greatest ability to benefit from treatment.

Better knowledge of the long-term outcomes in patients treated for HCV infection will also help guide decisions about the goal and target population for screening. For example, recent retrospective cohort studies found that despite the achievement of SVR, liver inflammation persisted[8] and the risk of HCV-related

KEY POINTS

- The Canadian Task Force on Preventive Health Care recommends against screening for hepatitis C virus (HCV) infection in adults who are not at elevated risk.
- There are knowledge gaps and system-wide barriers that would hinder population-based screening for chronic HCV infection in Canada.
- Addressing these gaps and barriers will not only increase capacity within the health care system to manage HCV infection in the future but will also improve health outcomes in patients currently living with chronic HCV infection.
- In the interim, efforts toward eliminating HCV infection should include addressing underdiagnosis by reducing barriers to testing, optimizing risk-based testing and expanding access to publicly funded treatment.

complications, including death, remained higher than for the general population.[9] Another retrospective cohort study found no difference between treated patients identified by risk-based testing and those identified through birth cohort screening in achieving SVR.[10] These findings, if reproduced, have important implications for screening decisions. If the goal of population-based screening is to prevent HCV-related complications and their associated costs, then screening may not prove to be cost-effective. Alternatively, if evidence emerges that treating patients with chronic HCV infection reduces HCV transmission in the population substantially — supporting a "treatment as prevention" approach — then population-based screening might play a critical role in the control and elimination of HCV infection.

Lack of capacity in the health care system to manage the influx of patients that would be diagnosed through population screening is also a barrier. The current model of care for chronic HCV infection typically relies on a hepatologist or infectious disease specialist to start and oversee treatment. For screening to be feasible, not only would DAA prices need to decline dramatically, but an alternate model of care, in which primary care providers manage treatment of chronic HCV infection, would need to be developed. However, an injection of resources in primary care, including additional training and education, would be required for this model to be successful.[11] The feasibility of a "HCV community prescriber" model of care was recently shown in a pilot study conducted in Australia.[12]

Another barrier to population-based screening relates to the limitations inherent to laboratory-based testing. In Canada, testing for HCV infection typically involves two immunoassays performed sequentially; this is followed by HCV RNA testing, which may require the collection of an additional blood sample.[13] Developing point-of-care testing that can distinguish resolved from active HCV infections will help support any future testing expansion. Point-of-care tests will also facilitate testing for marginalized and hard-to-reach populations.

In summary, addressing knowledge gaps and system-wide barriers to population-based screening for chronic HCV infection would not only increase capacity within the health system to manage HCV infection in the future, but it would also improve outcomes in patients currently living with chronic HCV infection. In the interim, underdiagnosis of chronic HCV infection should be addressed through knowledge translation and dissemination of existing testing guidelines to primary care providers, optimization of risk-based testing and expansion of access to publicly funded treatment. Population-based screening should be reconsidered in light of price reductions for DAAs, as well as emerging evidence on HCV transmission and long-term health outcomes after treatment. Similar to strategies for HIV testing in North America, it is likely that a combination of risk-based testing and population-based screening will be needed in the future.

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